single cavity ICD through subclavian vein. The electrodes were placed in right ventricular apex, the ICD was placed in the left chest.

RESULTS All patients were successfully implanted ICD. We gave those Postoperatives a follow-up of 3 ~ 12 months, no surgery related complications happened. Among of them, there were 2 patients launched the ICD therapy program (electric shock cardioverter, defibrillation or ATP treatment), and the other 2 cases did not start treatment program.

CONCLUSIONS The ICD can convert the malignant arrhythmia effectively, it is a preferred treatment in the treatment of malignant arrhythmia, and the prevention of sudden death.

GW26-e3954

To evaluate the relational ships between heart rate changes before and after pacemaker implantation and BNP

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OBJECTIVES To evaluate the relational ships between heart rate changes before and after pacemaker implantation and B-type brain natriuretic peptide (BNP) levels.

METHODS A total of 118 patients with sick sinus syndrome of DDD(R) cardiac pacemaker therapy and 100 patients with atrial fibrillation and slow heart rate of single cavity (VVI) cardiac pacemaker therapy from December 2007 to January 2011 were enrolled in this study. We followed the changes of heart rate for postoperative patients and detect the plasma BNP level with enzyme-linked immunosorbent method; we get the change rules between the two by comparison.

RESULTS Through a median follow-up of 60 days and laboratory tests and pacemaker programmed control, Compared with preoperative plasma levels, the plasma BNP levels of the sick sinus syndrome who Accept double cavity of DDD cardiac pacemaker therapy (R) declined significantly[(272.17±21.23) ng/L vs (52.39±18.22) ng/L, P<0.01]. Atrial fibrillation with slow heart rate who accepted single cavity VVI cardiac pacemaker therapy [(112.03±11.34) ng/L vs. (103.93±12.54) ng/L, P<0.01], Compared with preoperative plasma levels, blood plasma BNP level has no obvious changes. The relationship between heart rate and blood plasma BNP levels were significantly.

CONCLUSIONS Slow heart rate can increase left cardiac preload and damage ventricular systolic function and cause cardiac insufficiency for a long time.

ARRHYTHMIA INTERVENTION

GW26-e1801

Warfarin Effect on Renal function in Patients with Nonvalvular Atrial Fibrillation: Results from the Chinese Atrial Fibrillation Registry

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OBJECTIVES Warfarin is the most commonly used oral medication for anticoagulation to reduce the risk of stroke from atrial fibrillation, but little data is available for demonstrating its impacts on renal function of patients with nonvalvular atrial fibrillation (NVAF).

The prospective study aimed to evaluate warfarin effect on renal function by analyzing data of a total of 1590 Chinese adult patients, enrolled in the Chinese Atrial Fibrillation Registry, with ECG-detected NVAF with no dialysis.

METHODS We calculated estimated glomerular filtration rate (eGFR) using the Chinese Modification of Diet in Renal Disease study equation. Patients were divided into two groups, one group with warfarin (n= 696) and the other group with no anticoagulation (n=894). The endpoint was reached with the event of a ≧ 25% decrease in eGFR. The results of laboratory investigations and eGFR were recorded at months 3, 6, 12, 18, and 24 from treatment initiation.

RESULTS With follow-up over 2.7 years, comparing the two groups, warfarin group has less event rate than no anticoagulation group (8.05% versus 12.08%, p = 0.005) and longer survival time (LogRank p = 0.020). Additionally, in our multivariate Cox regression analysis, warfarin therapy was discovered to be the only protective factor in these NVAF patients (Hazard Rate 0.700 ,95% CI: 0.496-0.990, P = 0.044).

CONCLUSIONS Warfarin therapy has protection effect on event of a ≧25% decrease in eGFR and delays kidney function deterioration in Chinese patients with NVAF.

GW26-e1465

Self management of warfarin therapy in atrial fibrillation patients in China, a pilot study

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OBJECTIVES The objective of this study was to evaluate the impact of a patient self-management program on security, efficacy, quality of life about anticoagulation control in AF patients requiring chronic warfarin therapy compared with clinic standard treatment in China.

METHODS Our study was a prospective cohort study. 274 eligible subjects agreed to participate. 89 subjects chose the portable INR monitor to self-testing at home, who were assigned to PSM group. 185 subjects received standard treatment in an anticoagulation clinic, they were assigned to conventional group. the PSM group participated in the consecutive instruction courses that aimed to practice OAC management on their own. Follow-up 12 months. Quality of life (QOL) was assessed using the questionnaire Short-Form 12 Health Survey, version 2 (SF-12v2), Time in therapeutic range (TTR) assessed the quality of the anticoagulation treatment given. An INR range of 2.0 to 3.0 has been established as therapeutic by stroke prevention trials in AF.

RESULTS 80 subjects in PSM group and 168 subjects in conventional group completed the study, respectively. The two groups of data are shown that the regression equation for measured value of the portable INR monitor (y axis) and traditional central lab measured value (x axis) is y = 0.927x +0.177. Good correlation between the INR measured values of the two groups can be observed (r = 0.926, p < 0.05). Meanwhile, its bias can be observed with Bland-Altman diagram, the bias between the Self-testing INR and the conventional method INR in parallel is (−0.173 ± 0.157) and no sample bias more than 0.5 INR units. The median frequency of INR measurements in the study period was 7.3 days test INR one time in PSM group compared to 38.7 days in the conventional group (p=0.000). Medians of the percentage of TTR was 68% versus 57% (p=0.000). Cumulative risk of the first primary endpoint is performed by using Kaplan-Meier analysis, P=0.131. Thromboembolic complications occurred in 4 patients in the PSM group versus in 15 patients in the conventional group(P=0.277). major bleeding events occurred in 1 patients versus 6 patients in the PSM group and the conventional group, respectively(P=0.534). At least one minor bleeding occurred in two groups was no statistically significant (P=0.465). There were significant improvement (P=0.038) of the total physical score between the PSM group (42.3 ±5.3) and control group (40.7±5.8) after 12months follow-up. Significant improvement was also observed in total mental composite score (P=0.046) in the PSM group(53.4±6.5) compared to control(51.5 ±7.2).

CONCLUSIONS Patient self-testing of INR has a good consistency and stability compared with traditional laboratory testing. For the AF patients requiring chronic warfarin therapy compared with standard treatment, the patient self-management of anticoagulation therapy is a security and efficacious choice, which could improve AF patient's quality of life and has a promising future application in China.

GW26-e4601

Are 23-mm Cryoballoons Better than 28-mm Ones for the Treatment of Atrial Fibrillation in China?

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OBJECTIVES To compare the procedural parameters, safety and efficacy between the two sizes (23- and 28- mm) of the first-generation cryoballoon catheter for the treatment of atrial fibrillation in China.

METHODS Eighty - one consecutive patients with drug-refractory, symptomatic AF (96.3% paroxysmal) underwent pulmonary vein isolation (PVI) with the first-generation CBC were enrolled. Two groups were defined according to the balloon used during each procedure: Group 23- and 28- mm. The procedural parameters, procedure-related complications, acute and mid-term success rates were compared between the two groups.

RESULTS The percentage of procedures with 23-, 28- mm balloon alone, and double balloons was 49.4%, 46.9% and 3.7%. Compared with Group 28- mm, the mean freeze time (41.6 ± 9.7 vs. 32.9 ± 3.5 min, $P < 0.001$), fluoroscopic time (46.2 ± 15.3 vs. 33.9 ± 10.9 min, $P < 0.001$) and procedural time (125.0 ± 27.2 vs. 98.3 ± 18.2 min, $P < 0.001$) was shorter in Group 23- mm, the acute PVI rate with CBC alone was higher both on vein level (90.7% vs. 96.9%, $P = 0.021$) and patient

level (68.4% vs. 90.0%, $P = 0.018$) in Group 23- mm. All targeted veins were isolated using either CBC alone or plus conventional radiofrequency ablation. The AF-free survival had no significant difference between 23- and 28- mm groups (84.2% vs. 76.5%, $P = 0.726$) during a mean follow-up of 7.9 ± 3.2 months. The complication rate was not significantly different between the two groups (2.5%vs.10.5%, P = 0.195). One case of phrenic nerve palsy was detected when froze with a 28- mm balloon.

CONCLUSIONS CBC ablations using 23- mm balloons can simplify the procedure, and achieve a higher acute efficacy without at the cost of safety in selected patients when compared with 28- mm ones for catheter ablation of AF in China.

GW26-e3887

Early Clinical Study of the Efficacy and Safety of Domestic Devices for Left Atrial Appendage Closure

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OBJECTIVES Thromboembolic stroke is the most devastating complication of atrial fibrillation. Occlusion of the left atrial appendage (LAA) is believed to decrease the risk of stroke in the patients with nonvalvular atrial fibrillation. LAA closure with WACTHMAN device was authorized to prevent stroke in the patients with atrial fibrillation, replacing the traditional warfarin anticoagulants. LAmbre, a domestic new-design double-disc LAA closure device and Lefort, a new-design WATCHMAN-like device both entered into clinical trials, however, the feasibility and safety should be further measured. The purpose of this early clinical study was to determine the safety and efficacy of LAA closure using domestic LAA closure devices, the LAmbre and Lefort.

METHODS From April of 2014 to March of 2015, the patients with atrial fibrillation were enrolled to undergo percutaneous LAA closure using the LAmbre or Lefort device. LAA closure was confirmed by transesophageal echocardiography (TEE), then TEE or transthoracic transesophageal echocardiography (TTE) in the follow-up duration within 7 days, at 1 month, 3 months, 6 months and 1 year post-LAA closure. The success of sealing was defined as there was no or mild peri-device leak (jet <5mm) detected by TEE.

RESULTS Sixty-two patients were screened out to be conducted the procedure of LAA closure using LAmbre (54 cases) and Lefore (8 cases) respectively. Among all patients, 48 (77.4%) had permanent or persistent atrial fibrillation. The average CHADS2 score was 2.9±1.1 and the HAS-BLED was 3.3±1.0. The average time-cost of the procedure was about 68 minutes. The success of LAA closure was 100%. There were no major safety endpoint events during the peri-operative period. The average follow-up duration was 8.6 months, of which The LAmbre was 9.6 months, while the Lefort was 2 months. No cases lost to follow up. The closure of LAA measured by TEE in the 3-month was 97.9%. No stroke event or device-associated severe adverse event happened. The major SAEs were all-cause readmission (60%) and approach-associated complications (33.3%).

CONCLUSIONS This single-center early clinical study showed the safety and effectiveness to prevent stroke in the patients with atrial fibrillation for the procedure of LAA closure using using domestic devices, the LAmbre or Lefort. However, further large cases and longer follow-up visiting was still request.

GW26-e4499

Long-term Outcome and the Mechanisms of Pulmonary Antrum Radial-linear Ablation in Patients with Paroxysmal Atrial Fibrillation

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OBJECTIVES The aim of this study was to determine the mechanisms and effectiveness of pulmonary antrum radial-linear (PAR) ablation in comparison with pulmonary vein isolation (PVI) in patients with paroxysmal atrial fibrillation (AF) after a long-term follow-up.

METHODS The enrollment occurred between March, 2011, and August, 2011, with the last follow-up in May, 2014A total of 133 patients with documented paroxysmal AF were enrolled from 5 centers and randomized to PAR group or PVI group. Event ECG recorder and Holter monitoring were conducted during the follow-up for all patients.

RESULTS The average procedure time was 151±23 min in PAR group and 178±43 min in PVI group (P <0.001). The average fluoroscopy time was 21±7 min in PAR group and 27±11 min in PVI group (P = 0.002). AF triggering foci were eliminated in 59 patients (89.4%) in PAR group, whereas, only 4 patients (6.0%) in PVI group (P <0.001). At median 36 (37-35) months of follow-up after single ablation procedure, 43 of 66 patients in PAR group (65%) and 28 of 67 patients in PVI group (42%) had no recurrence of AF off antiarrhythmic drug (AAD) (P =0.007); and 47 of 66 patients in PAR group (71%) and 32 of 67 patients in PVI group (48%) had no recurrence of AF with AAD (P =0.006). At the last follow-up, the burden of AF was significantly lower in PAR group than in PVI group (0.9% ± 2.3% vs 4.9% ± 9.9%; 90th percentile, 5.5% vs 19.6%; P =0.008).

CONCLUSIONS PAR ablation is a simple, safe, and effective strategy for the treatment of paroxysmal AF with better long-term outcome than PVI. PAR ablation might exhibit the beneficial effect on AF management through multiple mechanisms.

GW26-e0725

Feasibility and Clinical Application of MSCT Three-dimensional Imaging In Percutaneous Left Atrial Appendage Closure

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OBJECTIVES The three-dimensional(3D) structures of left atrial appendage (LAA) in atrial fibrillation patients were reconstructed by Multi-slice computed tomography (MSCT) imaging system, aiming at exploring the feasibility and clinical applied value in percutaneous left atrial appendage closure.

METHODS Inclusion criteria were: voluntary patients with both atrial fibrillation and indication for LAA closure aging from 40 to 85 years old with contraindication for oral anticoagulants or unwillingness to take long-term oral anticoagulation therapy. With the three-dimensional structures of LAA which are reconstructed from the imaging of MSCT by post-processing workstation, the measurement of diameter and depth of LAA is compared between the way of preoperatively spatial vector and postoperatively both transesophageal echocardiography(TEE) and radiography, aiming at selecting suitable size and location of LAA closure device. The devices were planted at the ostium of the LAA. The TEE and (or) CT three-dimensional reconstruction were rechecked, and follow-up of major cardiovascular events within 3 months after implantation was recorded.

RESULTS 17 atrial fibrillation patients were enrolled (average age:69.0±8.83 years old). 15 of them were non-valvular atrial fibrillation patients [CHADS2-VAS score (3.7±1.78) and HAS-BLED score (2.6±1.33)]. Ten of these 17 patients were successfully implanted with the WATCHMAN LAA closure devices. Nine of the ten were with nonvalvular atrial fibrillation with average CHADS2-VAS score (3.2±1.69) and HAS-BLED score (2.7±1.63). The rest one was a valvular atrial fibrillation patient with the history of the percutaneous balloon mitral valvuloplasty (PBMV) resulting in the lack of surgical indications of mitral valve replacement (MVR). No blood leakage was found around the device by regular postoperative TEE and LAA radiography examinations among 10 patients. Two methods under AW4.4 system showed high repeatability and no obvious difference with the final device size. There existed difference with statistical significance compared to TEE (All P<0.05). Thus, MSCT imaging may be superior to the TEE. There were no complications of bleeding, embolism, or stroke during both peri-operative period and three-month follow-up time. Also, recheck by TEE and(or) CT 3D reconstruction three months after procedure showed no blood leakage among 10 atrial fibrillation patients.

CONCLUSIONS Preoperative MSCT three-dimensional reconstruction of LAA among atrial fibrillation patients shows the three dimensional structure and provides essential information guiding the successful LAA closures. Reconstruction after the procedure provides reliable reference for follow-up.